UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB1999-0156

August 10, 1999

Fred Patron
Federal Highway Administration
The Equitable Center, Suite 100
530 Center Street NE
Salem, OR 97301

Re: Biological Opinion for the MP 5 to Wilson County Park

Dear Mr. Patron:

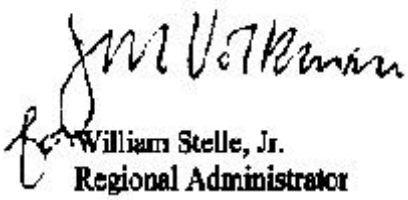
The National Marine Fisheries Service (NMFS) has enclosed the Biological Opinion (BO) that addresses your proposed project to resurface the highway and repair culverts along the Wilson River Highway (Hwy 6) in Tillamook County, Oregon. This project is described in your Biological Assessment (BA) submitted with your request for consultation. The Federal Highway Administration is the lead federal agency and ODOT is the designer and administrator of the construction contract.

This opinion considers the potential effects of the project on Oregon coast coho salmon (*Oncorhynchus kisutch)* which occur in the proposed project area. Oregon coast coho salmon were listed as threatened under the Endangered Species Act on August 10, 1998 (63 FR 24998), and critical habitat was proposed on May 10, 1999 (64 FR 24998). This opinion constitutes formal consultation for the Oregon coast coho salmon.

NMFS concludes that the proposed action will not jeopardize the Oregon coast coho salmon, or adversely modify proposed critical habitat. Reasonable and prudent measures to minimize the amount and extent of take are outlined in Section XI of the BO.

If you have any questions regarding this letter, please contact Nancy Munn of my staff at (503) 231-6269.

Sincerely,



William Stelle, Jr.
Regional Administrator

cc: Pieter Dykman - ODOT
Rose Owens - ODOT Biology Team Leader
Julie Bunnell - ODOT Roadway Engineering
Randy Reeve - ODFW

Endangered Species Act - Section 7
Consultation

Biological & Conference Opinion

MP 5 to Wilson County Park
Wilson River Highway
Tillamook County

Agency: Federal Highway Administration

Consultation Conducted By: National Marine Fisheries Service,
Northwest Region

Date Issued: August 10, 1999

Refer to: OSB1999-0156

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I. Background

On June 25, 1999, the National Marine Fisheries Service (NMFS) received a biological assessment (BA) and request from the Federal Highway Administration (FHWA) for Endangered Species Act (ESA) section 7 consultation proposed for repairs to the roadway and associated culverts along the Wilson River Highway (Highway 6) in Tillamook County. The FWHA is the lead action agency, and the Oregon Department of Transportation (ODOT) has designed this project and will administer the construction contract. ODOT is the federally-appointed representative of FHWA, and is responsible for implementing the terms and conditions agreed to during the consultation. This Biological Opinion (BO) is based on the information presented in the BA provided by ODOT.

The FHWA/ODOT determined that the Oregon coast (OC) coho salmon (*Oncorhynchus kisutch*) may occur within the project area. This species was listed as threatened under the ESA on August 10, 1998 (63 FR 42587) and critical habitat was proposed on May 10, 1999 (64 FR 24998).

The proposed action will consist of resurfacing and repainting the roadway, renovating signage, renovating and extending guardrails, closing scuppers on bridges, replacing and/or extending culverts, and improving trash racks on culverts. Modifications will be made to three culverts that are located on fish-bearing tributaries to the Wilson River. Of these, only one tributary likely provides habitat for coho salmon.

The determination that the proposed action is likely to adversely affect listed OC coho salmon was made by FHWA/ODOT using the methods described in *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996).

This BO reflects the results of the consultation process. The consultation process has involved telephone conversations to clarify information in the BA and a July 14, 1999, amendment to the BA. As appropriate, modifications to the proposal to reduce impacts to the indicated species were discussed and enacted. Fish passage will be improved in three culverts within the boundaries of the project. All in-water work at stream and drainage ditch culverts will be done within the Oregon Department of Fish and Wildlife (ODFW) recommended in-water work guidelines. Special effort will be taken when de-watering the fish-bearing culverts; this will be described in section II of this document. Erosion control procedures during work at all culverts has been supplemented to ensure protection of water quality in the Wilson River.

The objective of this BO is to determine whether the proposed action along the Wilson River Highway is likely to jeopardize the continued existence of OC coho salmon or destroy or adversely modify critical habitat.

II. Proposed Action

A. Construction Activities

The proposed action will consist of resurfacing and repainting the roadway, renovating signage, renovating and extending guardrails, closing scuppers on bridges, replacing and/or extending culverts, and improving trash racks on culverts. No roadway realignment will be necessary. The project is scheduled to go to bid in August 1999 with in-water work scheduled for the summer of 2000.

In addition to roadway resurfacing, guardrail renovation, extension, or installation will take place at 34 separate sites within the project area. Approximately 200 square feet of riparian vegetation will be permanently removed to accommodate the guard rails. On bridges, scuppers will be closed and drainage will be redirected to vegetated upland areas. Two bridges will be overlaid with a new road surface. At these locations, the existing road will undergo cold plane pavement removal and will be replaced with membrane waterproofing and pavement. Also, expansion joints will be repaired and standard guard rail transitions will be implemented.

There are 23 culverts within the project area that drain ditches, or drain small unnamed streams that are not considered fish bearing. These culverts are all under 36 inches in diameter, and are at least 50 feet upstream of their confluence with the Wilson River. Actions involving these culverts include replacing or extending the culverts and renovating trash racks. No concrete will used for activities at these culverts. Work at these culverts has the potential to increase sedimentation downstream in the Wilson River.

In addition, there are three culverts within the project area that are greater than 36 inches in diameter, and are used for the passage of larger streams under Highway 6. These culverts do not currently provide for fish passage under all conditions (i.e. all flows). The culverts have been rated a low priority for fish passage by ODFW but are considered a maintenance problem by ODFW because they accumulate large woody debris and back up water. Actions on these culverts include pouring new concrete floors and imbedding angular rock to slow the water and increase the roughness factor for improved passage. More information is provided below for each of these streams/culverts fixes:

1. Mining Creek. This creek has a natural barrier about 400 feet upstream of the culvert. This stream contains resident cutthroat trout but probably no anadromous fish. Fish passage will be improved by embedding angular rock in a new concrete culvert floor.

2. Hatchery Creek. This stream has the potential to contain coho salmon and steelhead trout when flows in the stream are high enough. These conditions often occur during winter. The passage problem is caused by a poorly designed trash rack and high water velocity. The proposed action will modify the rack to allow passage of larger debris, and embed angular rock in a new culvert floor to slow flow. Fish passage will be improved as a result of the modifications.

3. Jack Creek. This stream contains resident cutthroat trout but no anadromous fish. The passage problem is caused by a poorly designed trash rack and high water velocity. The proposed action will modify the rack to allow passage of larger debris, and embed angular rock in a new culvert floor to slow flow with the goal of improving fish passage.

B. De-watering of Culverts

Work on the three fish-bearing culverts will involve the de-watering of the culvert, so that new concrete floors may be poured. Water will be eliminated from these culverts by one of two methods. Both methods involve the use of sandbags and plastic sheeting to create a temporary dam above the culvert. Additionally, a secondary dam will likely be used between the work area and the primary dam to contain water that seeps under the primary dam. A pump will be used to transfer any water in this area upstream of the primary dam or, if the water is turbid, to a settling pond. Any fish present in the area to be de-watered will be moved above the dams under the supervision of ODFW. Fish will be captured either by seining or electrofishing. The culverts and adjacent work areas are expected to be de-watered for 7 to 14 days to allow for pouring and curing of the new floors.

The first method of de-watering requires the installation of a metal culvert pipe in the dam. This culvert is then suspended in the concrete culvert being repaired. Stream water is stopped by the dam, flow passes through the metal culvert, and is released downstream of the work area. Sandbags may be placed at the outlet of the temporary pipe for erosion control.

The other method of de-watering involves placing a pump in the area behind the primary dam and pumping the water through a flexible hose that is placed over the roadway or in a groove in the asphalt roadway. The hose will be protected from being crushed by vehicles. The pump will be screened with a 3/32 inch mesh screen to prevent juvenile fish from being drawn into the pump. In addition, a geotextile barrier will likely be placed at some distance from the pumping area to prevent fish from approaching the pump and screen.

C. Erosion Control

Erosion control devices will be used at the pipe outlet of 14 of the culverts less than 36 inches. When soil disturbance is expected to occur during intermittent or non-flow periods, a silt fence will be used. The silt fence will be constructed of 2-foot high geotextile attached to wire mesh and supported by

posts buried to a depth of 1.6 feet. Spacing between posts will vary depending upon the slope at each culvert. When soil disturbance is expected to occur during periods when water is flowing through a pipe, a check dam will be used. Silt fences will also be constructed above the culvert pipe during backfill operations.

D. Planting Plan

A planting plan has been prepared as compensatory mitigation for the removal of riparian vegetation during guardrail extension and culvert work. Approximately 200 square feet of riparian vegetation (consisting largely of grasses and brush) will be removed during the project; no trees will be removed. Vegetation will be removed from the area near guardrail extensions and during culvert work. Based on the 1:1.5 mitigation measure for riparian vegetation removal, 300 square feet of riparian vegetation will need to be planted. The site for this mitigation will be upslope of an unnamed stream in the project area where there is approximately 500 square feet available for plantings within 100 feet of the high water mark. Approximately 6 to 10 Douglas-fir and western hemlock will be planted. Red alder saplings are already present at this site. The addition of conifer species will allow for long-term shading and for future large woody debris recruitment.

III. Biological Information and Critical Habitat

The Oregon Coast coho salmon Evolutionarily Significant Unit (ESU) was listed as threatened under the ESA by the NMFS on August 10, 1998 (63 FR 42587). Biological information on OC coho may be found in Weitkamp et al. (1995). Critical habitat was proposed for the OC coho on May 10, 1999 (64 FR 24998).

IV. Evaluating Proposed Action

The standards for determining jeopardy are set forth in section 7(a)(2) of the ESA as defined by 50 CFR 402 (the consultation regulations). NMFS must determine whether the action is likely to jeopardize the listed species and/or whether the action is likely to destroy or adversely modify critical habitat. This analysis involves the initial steps of (1) defining the biological requirements and current status of the listed species, and (2) evaluating the relevance of the environmental baseline to the species' current status.

Subsequently, NMFS evaluates whether the action is likely to jeopardize the listed species by determining if the species can be expected to survive with an adequate potential for recovery. In making this determination, NMFS must consider the estimated level of mortality attributable to: (1) collective effects of the proposed or continuing action, (2) the environmental baseline, and (3) any

cumulative effects. This evaluation must take into account measures for survival and recovery specific to the listed salmon's life stages that occur beyond the action area. If NMFS finds that the action is likely to jeopardize, NMFS must identify reasonable and prudent alternatives for the action.

Furthermore, NMFS evaluates whether the action, directly or indirectly, is likely to destroy or adversely modify the listed species' designated critical habitat. The NMFS must determine whether habitat modifications appreciably diminish the value of critical habitat for both survival and recovery of the listed species. The NMFS identifies those effects of the action that impair the function of any essential element of critical habitat. The NMFS then considers whether such impairment appreciably diminishes the habitat's value for the species' survival and recovery. If NMFS concludes that the action will adversely modify critical habitat it must identify any reasonable and prudent measures available.

For the proposed action, NMFS' jeopardy analysis considers direct or indirect mortality of fish attributable to the action. NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for rearing and spawning of the listed salmon under the existing environmental baseline.

A. Biological Requirements

The first step in the methods NMFS uses for applying the ESA section 7(a)(2) to listed salmon is to define the species' biological requirements that are most relevant to each consultation. NMFS also considers the current status of the listed species taking into account population size, trends, distribution and genetic diversity. To assess to the current status of the listed species, NMFS starts with the determinations made in its decision to list the species for ESA protection and also considers new data available that is relevant to the determination (Weitkamp et al. 1995).

The relevant biological requirements are those necessary for the listed species to survive and recover to naturally reproducing population levels at which protection under the ESA would become unnecessary. Adequate population levels must safeguard the genetic diversity of the listed stock, enhance their capacity to adapt to various environmental conditions, and allow them to become self-sustaining in the natural environmental.

For this consultation, the biological requirements are improved habitat characteristics that function to support successful spawning and rearing. The current status of the OC coho salmon, based upon their risk of extinction, has not significantly improved since the species was listed and, in some cases, their status may have worsened. Freshwater habitat degradation has been a significant factor in the decline of this species.

B. Environmental Baseline

The biological requirements of the OC coho salmon are currently not being met under the environmental baseline. As stated above, degradation of freshwater habitat is a significant factor in their decline. Their status is such that there must be a significant improvement in the environmental conditions they experience including the condition of any designated critical habitat (over those currently available under the environmental baseline). Any further degradation of these conditions would have a significant impact due to the amount of risk the listed salmon presently face under the environmental baseline.

The current range-wide status of the identified ESU is provided in Weitkamp et al. (1995). The identified actions will occur throughout some of the range of the OC coho salmon. The defined action area is the area that is directly and indirectly affected. The direct effects occur at the project site and may extend upstream or downstream based on the potential for impairing fish passage, hydraulics, sediment and pollutant discharge, and the extent of riparian habitat modifications. Indirect affects may occur throughout the watershed where actions described in this opinion lead to additional activities or affect ecological functions contributing to stream degradation. As such, the action area for the proposed activities include the immediate watershed containing the project and those areas upstream and downstream that may reasonably be affected, temporarily or in the long term. For the purposes of this opinion, the action area is defined as the Wilson River from MP 5 (rivermile 8.6) to the Wilson County Park, plus any tributaries that enter into the Wilson River within the action area (see attached map).

The Wilson River flows approximately 49 miles from its headwater in the Coast Range to its mouth on Tillamook Bay along the Oregon coast. The beginning of the project is located approximately 8.6 miles upstream of the mouth. The primary tributaries of the Wilson River within the project area include the Little North Fork Wilson River, Deadman Creek, Hatchery Creek, Mining Creek, and Zig Zag Creek.

Land use within the project area is low density rural residential and managed forestland. The watershed has been impacted by timber harvest, agricultural development, and roads. Temperatures in the Wilson River system generally exceed the numeric criteria of 64°F in the summer. The Wilson River is on the 303(d) list as a water quality limited stream for bacteria and temperature. Very little off-channel habitat is available.

The vegetation in the riparian corridor consists of red alder and bigleaf maple, mixed with Douglas-fir and western hemlock. Where native vegetation has been disturbed or removed, the riparian vegetation consists of grass and Himalayan blackberries, among other non-native species.

Historically, the Wilson River supported runs of steelhead trout, cutthroat trout, chinook salmon, chum salmon, and coho salmon. Coho salmon enter the Wilson River watershed from September through October with peak entry occurring from late September to mid-October.

Spawning occurs from November through February. Streams surveys in the watershed found coho spawning in tributaries upstream of the project site. Smolt emigration occurs between February and June, peaking in April.

Based on the best available information on the current status of OC coho salmon range-wide (Weitkamp et al. 1995); the population status, trends, and genetics; and the poor environmental baseline conditions within the action area, NMFS concludes that the biological requirements of the identified ESU within the action area are not currently being met. There are extensive survey data available for coho salmon in this region. Overall, spawning escapements have declined substantially during this century. Average spawner abundance has been relatively constant since the late 1970s, but pre-harvest abundance has declined. Improvement in habitat conditions is needed to meet the biological requirements for survival and recovery of these species. Availability of high quality habitat has been a significant factor in the decline of OC coho (63 FR 42587). According to the analysis presented in the BA, the following habitat indicators are either at risk or not properly functioning within the action area: temperature, sediment, chemical contamination, substrate, off-channel habitat, refugia, width/depth ratio, drainage network increase, road density and location, disturbance history, and riparian reserves. Actions that do not maintain or restore properly functioning aquatic habitat conditions would be likely to jeopardize the continued existence of anadromous salmonids.

V. Analysis of Effects

A. Effects of Proposed Action

The effects determination in this opinion was made using a method for evaluating current aquatic conditions, the environmental baseline, and predicting effects of actions on them. This process is described in the document *Making ESA Determinations of Effect for Individual or Grouped Actions at the Watershed Scale* (NMFS 1996). The effects of actions are expressed in terms of the expected effect - restore, maintain, or degrade - on aquatic habitat factors in the project area.

For each individual action covered in this opinion, the effects on aquatic habitat factors and to species considered in this opinion can be limited by utilizing construction methods and approaches that are intended to minimize impacts. The effects of the proposed project have been evaluated based on the application of the ODOT's *General Minimization and Avoidance Measures* which are included as terms and conditions of the incidental take statement. Of particular importance are the limitation of in-water work to the in-water work period (July 1 - September 15) when water levels are low (except as specifically mentioned in the project description); conducting in-stream work within a coffer dam if there is water in the work area; implementing erosion control measures; limiting the extent of disturbance in riparian areas, stream bank and bed; maintaining fish passage during construction; and minimizing direct discharge of sediments or pollutants into the stream.

For each of the proposed activities, the NMFS expects that the effects will likely maintain each of the habitat elements over the long-term (greater than one year). In the short term, expected impacts include a temporary increase in turbidity and sediment input, a loss of approximately 200 square feet of riparian vegetation, and a slightly increased risk of a fuel oil spill into the action area during construction. Work will be isolated from the active stream by conducting work at low water or by the use of temporary diversions (e.g., coffer dams). Fish may be inadvertently killed or temporarily displaced during the in-water work.

In the long term, this action is not expected to have direct impact on the indicated species or have long term detrimental affects on the riparian habitat. Impacts will be minimized by incorporating indicated conservation measures, reduced stormwater runoff, improved fish passage in four tributaries, and the planting of riparian vegetation. The potential effects from the sum total of proposed actions are expected to restore properly functioning stream conditions within the action area.

Summary of Specific Effects:

1. In-water work within the action area could result in a take of OC coho salmon during the in-water work at Hatchery Creek. In-water work will consist of the removal of the old trash rack, installation of a new trash rack, and pouring a new concrete floor in the culvert. In-water work associated with the other culverts includes replacing or extending culverts, installing or modifying culvert floors, and modifying trash racks. This work could result in increased short-term delivery of sediment to the Wilson River, which has the potential to temporarily displace fish. This could impact fish up to 1,000 feet downstream of the mouth of each tributary.
2. Seining and/or electrofishing could result in the lethal or non-lethal take of OC coho salmon. This is necessary because any fish left in the de-watered area would be killed.
3. Fish passage will be improved through the three larger culverts through alterations to the trash racks, and modifications to the culvert floors to decrease stream flows.
4. Removal of 200 square feet of riparian vegetation (shrubs and grasses) at the bridge ends to accommodate new guardrail will be minor, but may cause localized increases in water temperature and sedimentation, and reduced food supply. This will be mitigated by planting 300 square feet of conifers in the riparian area.
5. Minor sediment inputs to the tributaries and mainstem Wilson River are likely. However, the erosion control plan prepared by ODOT and the contractor will limit the extent of sediment-producing activities, and effective erosion control measures will be in place at all times during construction. Sediment-laden water created by construction activities will be filtered before it leaves the right-of-way or enters a stream. Erosion control measures are further described in the terms and conditions of the incidental take statement.
6. Stormwater runoff that currently enters the Wilson River from the bridges will be collected and directed to vegetated upland area. This will reduce sediment and contaminant loading to the river.

7. There is a slightly increased risk of a fuel oil spill into the action area during construction. Measures described in the terms and conditions of the incidental take statement minimize the risk.

B. Effects on Critical Habitat

NMFS designates critical habitat based on physical and biological features that are essential to the listed species. Essential features for designated critical habitat include substrate, water quality, water quantity, water temperature, food, riparian vegetation, access, water velocity, space and safe passage. Critical habitat has been proposed for the OC coho salmon. Critical habitat includes the streambottom and water, and adjacent riparian zone within 300 feet of ordinary high water within the defined geographic extent. For each of the proposed actions, NMFS expects that the effects will tend to maintain properly functioning conditions in the watershed under current baseline conditions over the long term. In the short term temporary increase of sediments and turbidity and disturbance of riparian habitat is expected. In the long term, no loss of stream or riparian habitat will occur. NMFS does not expect that these actions will diminish the value of habitat for the survival of the OC coho salmon.

C. Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." For the purposes of this analysis, the general action area is the watersheds containing the project. Future Federal actions, including the ongoing operation of hydropower systems, hatcheries, fisheries, and land management activities that are being reviewed through separate section 7 consultation processes, are not considered cummulative effects.

A wide variety of actions occur within the action area. NMFS is not aware of any significant change in such non-Federal or Federal activities that are reasonably certain to occur. NMFS assumes that future private, State and Federal actions will continue at similar intensities as in recent years.

VI. Conclusion

NMFS has determined based on the available information, that the proposed actions are expected to maintain properly functioning stream conditions within the action area. Consequently, the proposed actions covered in this opinion are not likely to jeopardize the continued existence of OC coho salmon. NMFS used the best available scientific and commercial data to apply its jeopardy analysis, when analyzing the effects of the proposed action on the biological requirements of the species relative to the environmental baseline, together with cumulative effects. NMFS applied its evaluation methodology (NMFS 1996) to the proposed action and found that it would cause minor, short-term adverse

degradation of OC coho salmon habitat due to sediment impacts, in-water construction, and riparian disturbance. These effects will be balanced in the long-term through the proposed riparian plantings and improved fish passage. Direct mortality from this project may occur during the in-water work at Hatchery Creek.

VIII. Conservation Recommendations

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. In addition to those general minimization and avoidance measures attached as terms and conditions of the incidental take statement, NMFS requests that FHWA/ODOT limit the extent of disturbance in riparian areas, the stream bank, and the streambed.

IX. Reinitiation of Consultation

Consultation must be reinitiated if: the amount or extent of taking specified in the Incidental Take Statement is exceeded, or is expected to be exceeded; new information reveals effects of the action may affect listed species in a way not previously considered; the action is modified in a way that causes an effect on listed species that was not previously considered; or, a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16). To re-initiate consultation, FHWA/ODOT must contact the Habitat Conservation Division (Oregon Branch Office) of NMFS.

X. References

DEQ 1996. 303d List of Water Quality Limited Streams, as Required Under the Clean Water Act. Oregon Department of Environmental Quality (DEQ), Portland, Or. 1996. (www.deq.state.or.us/wq/303dlist/303dpage.htm).

DEQ 1998. Draft 303d List of Water Quality Limited Streams, as Required Under the Clean Water Act. Oregon Department of Environmental Quality (DEQ), Portland, Or. 1998. (www.deq.state.or.us/wq/303dlist/303dpage.htm).

DSL 1996. Essential Indigenous Salmonid Habitat, Designated Areas, (OAR 141-102-030). Oregon Division of State Lands. Portland, Or. 1996.

NMFS (National Marine Fisheries Service) 1996. Making Endangered Species Act determinations of effect for individual and grouped actions at the watershed scale. Habitat Conservation Program, Portland, Oregon.

ODFW 1996. Database -- Salmonid Distribution and Habitat Utilization, Arc/Info GIS coverages. Portland, Or. 1996. (rainbow.dfw.state.or.us/ftp/).

Weitkamp, L.A., T.C. Wainwright, G.J. Brant, G.B. Miller, D.J. Teel, R.G. Kope, and R.S. Waples. 1995. Status Review of Coho Salmon from Washington, Oregon , and California. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-NWFWC-24, 258 p.

XI. Incidental Take Statement

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patters such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. It also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

A. Amount or Extent of the Take

The NMFS anticipates that the action covered by this Biological Opinion has more than a negligible likelihood of resulting in incidental take of OC coho salmon because of detrimental effects from increased sediment levels (non-lethal) and the potential for direct incidental take during in-water work at Hatchery Creek (lethal and non-lethal). Effects of actions such as these are largely unquantifiable in the short term, and are not expected to be measurable as long-term effects on habitat or population levels. Therefore, even though NMFS expects some low level incidental take to occur due to the actions covered by this Biological Opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take to the species itself. In

instances such as these, the NMFS designates the expected level of take as "unquantifiable." Based on the information in the BA, NMFS anticipates that an unquantifiable amount of incidental take could occur as a result of the actions covered by this Biological Opinion. The extent of the take is limited to the action area extending 1,000 feet downstream of project activities.

B. Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to avoid or minimize take of the above species.

1. To minimize the amount and extent of incidental take from construction activities within the stream channel, measures are needed to limit the duration of in-water work, and to time such work to occur when listed fish are absent.
2. To minimize the amount and extent of incidental take from construction activities in or near stream channels, effective erosion and pollution control and revegetation measures are needed to minimize the movement of soils and sediment both into and within the stream channel, and to stabilize bare soil over both the short term and long term.
3. To minimize the amount and extent of take from erosion and to minimize impacts to critical habitat, measures are need that minimize impacts to riparian habitat, or where impacts are unavoidable, that replace lost riparian habitat function.
4. To ensure effectiveness of implementation of the reasonable and prudent measures, all plantings and mitigation sites must be monitored and meet criteria as described below in the terms and conditions. Also, erosion control measures will be monitored and evaluated both during and following construction.

C. Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, FHWA/ODOT must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. In- water Work:

- All work within the active channel of all anadromous fish-bearing systems, or in systems which could potentially contribute sediment or toxicants to downstream fish-bearing systems, will be conducted during the ODFW-recommended time period of July 1 to September 15 unless otherwise agreed to by both ODFW and NMFS.
- Measures will be taken to prevent construction debris from falling into the Wilson River or its tributaries. Any material that falls into the creek during construction will be removed in a manner that minimizes the impact to the streambed, streambank, and water quality.

- The de-watering method will be coordinated with the ODFW/ODOT Liaison Biologist, Randy Reeve, to ensure that the most reasonable treatments are implemented for each affected culvert.
- Passage shall be provided for both adult and juvenile forms of all salmonid species throughout the construction period. ODOT designs will ensure passage of fish as per ORS 498.268 and ORS 509.605.

2. Erosion and Pollution Control:

- An Erosion Control Plan (ECP) will be prepared by the Contractor. The ECP will outline how and to what specifications various erosion control devices will be installed to meet water quality standards, and will provide a specific inspection protocol and time response. Erosion control measures will be sufficient to ensure that turbidity does not exceed 10% above ambient (background) conditions. Section 00170.30 of ODOT's Standard Specifications and Section 00280 of the Supplemental Standard Specifications will be followed. Erosion control plan sheets have been prepared, and shall be implemented.
- Contingencies will be made to maintain these controls in the event of severe weather, including backwater flooding will also be developed and implemented.
- The contractor will develop a Pollution Control Plan (PCP) to prevent point-source pollution related to contractor operations. This plan shall satisfy all pertinent requirements of Federal, State, and local laws and regulations, and the requirements of the special provisions. The PCP will be submitted along with the proposed modifications to the Erosion and Sediment Control Plan required in Section 280 to the Engineer ten working days prior to the preconstruction conference. The PCP shall include the following:
    - A site plan and narrative describing the methods of erosion/sediment control to be used to prevent erosion and sediment for the contractor's operations related to disposal sites, borrow pit operations, haul roads, equipment storage sites, fueling operations and staging areas.
    - Methods for confining and removing and disposing of excess concrete, cement and other mortors. Measures will also be identified for washout facilities.
    - Hazardous products or materials to be used will be identified. Information will be included as to how these items will be handled, monitored, inventoried and stored.
    - A spill containment and control plan will be prepared that includes: notification procedures' specific clean up and disposal instructions for different products; quick response containment and clean up measures which will be available on site; proposed methods for disposal of spilled materials; and employee training for spill containment.
    - Measures will be identified as to how hazardous and nonhazardous waste generated from the project will be reduced and recycled. The following will be included: the types of materials, estimated quantity, storage methods, and disposal methods.

- The person identified in section 280 as the Erosion and Pollutant Control Manager (ECPM) shall also be responsible for the management of the contractor's PCP.
- No pollutants of any kind (petroleum products, fresh concrete, silt, etc) shall come in contact with the active flowing stream.
- The contractor will place waste materials and spoils above the bank line and away from any wetlands.
- Hazardous materials (i.e., petroleum products, green concrete) must be handled in such a way that minimizes the risk to aquatic and riparian habitats. Hazardous materials will not be allowed to enter any watercourse. Green concrete is defined as concrete that has not cured for at least 48 hours.
- No toxicant will be stored within 160 feet of any stream. Areas for fuel storage, refueling and servicing of construction equipment and vehicles will be located at least 160 feet away from any stream.

3. Riparian Issues:

C Alteration of native vegetation will be minimized. Where possible, native vegetation will be clipped by hand so that roots are left intact. This will reduce erosion while still allowing room to work. No protection will be made of invasive exotic species (e.g. Himalayan blackberry)

C Riparian overstory vegetation removed will have a replacement ratio of l.5:1. Replacement will occur within the project vicinity where possible and within the watershed at a minimum.

4. Monitoring:

C Mitigation site monitoring will ensure that mitigation plantings have an adequate success rate to replace the functions they were designed to replace. ODOT biology staff will monitor plantings twice, one following construction, and once a year later.

C Failed plantings and structures will be replaced, if replacement would potentially succeed. In cases of failed design, mitigation will generally be sought on another project, in a more appropriate location.

C Erosion control measures will be monitored and evaluated both during and following constructions. Modifications will be made as needed.